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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/546,174 04/11/00 LIU

mk
C JIA 462C1

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IM52/0403

EXAMINER

SERGEANT, R

ART UNIT

PAPER NUMBER

1711

DATE MAILED:

2
04/03/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/546,174

Applicant(s)
Liu et al.

Examiner
Rabon Sargent

Group Art Unit
1711



☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-20 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 1

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

1. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification (37 CFR 1.78).

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the ~~assignee~~ ^{attorney} must fully comply with 37 CFR 3.73(b).

3. Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6,117,345. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter of the instant set of claims is an obvious variant of the patented claims. With respect to claims 1-19, though the claims are silent regarding a masking layer, such a layer is disclosed and the instant claims are open to the inclusion of such a layer.

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Furthermore, the use of a masking layer is considered to constitute an obvious process design choice, with respect to the etching art.

4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within line 2 of claim 8, "antireflection" should be "antireflective".

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the use of "primarily" is intended to further limit the claim.

6. Claims 1-8 and 20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods wherein the gaps are filled with dielectric material by the step of high density plasma chemical vapor deposition, does not reasonably provide enablement for methods wherein the deposition step fails to fill the gaps. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The deposition steps of claims 1 and 20 do not specifically require that the dielectric material fill the gaps; however, this is a central objective of applicants' application.

7. Claims 1, 2, and 5-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods wherein high density plasma chemical vapor

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deposition is used to deposit the dielectric material within the gaps between the wiring lines, does not reasonably provide enablement for methods utilizing other deposition techniques to deposit the dielectric material . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Applicants have provided adequate enablement only for processes utilizing high density plasma chemical vapor deposition, and the position is taken that the claims should be limited in accordance with the teachings of the specification.

8. Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is unclear how the antireflective coatings (claim 1) and cap layer (claim 9) and layers directly beneath them are selectively etched. Applicants' claims fail to recite a mask or photoresist layer.

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Any inquiry concerning this communication should be directed to R. Sergent at telephone number (703) 308-2982.

Sergent/sp/om
March 7, 2001
March 21, 2001


RABON SERGENT
PRIMARY EXAMINER